CONVERSATION (AL PROCESS): DAN SANDIN - INVENTOR OF THE IMAGE PROCESSOR, ASST PROF UNIV. OF ILL.

PHIL MORTON - COPIER OF THE IMAGE PROCESSOR, ASST PROF ART INST. OF CHGO.

lettering

NOTE: *SAIC/VIDEO students should try to get-in a look/see:hear/here at video cassette # 26 (re: Dan Sandin Image Processor) before next Thursdsy, Nov. 15...DAN and his STUDENTS will be here for two days with the COLOR IMAGE PROCESSOR to give a "...free color video synthesis event by the NEWSPACE CULT...6:00-8:00, 11/15/73.*

.WE'RE DOING IT:::

I look at it from the 'design' point of view...I look at how I interact with my environment, with machines and other things in the environment...and then extract what appears to be the relevent descriptions. feedback-control-theroy is the primary relevent description...and that everything that I do is dependent upon feedback, from walking across the room as example (you know you don't start out to walk across 35 feet by pointing in one direction...you are continually correcting your actions until you get to the place) that's the way you pick up a pencil or anything else. To prove that all you have to do is mess-up the feedback loop and you're stopped or severely handicapped the classic example thing is to talk into a microphone and have a delay coming back into your ear that is off by a few tensth of a second and you just can't talk...

WHEN YOU MESS_UP THE FEEDBACK, YOU MESS UP THE RESULTS...that's all there is to it!

So I got into designing machines mainly in terms of their feedback...one of my personal problems when into photography and film was the removed feedback; I couldn't get where I wanted to go fast enough...to learn things I needed to know to do what I wanted to do.

SO, I WENT ABOUT DESIGNING THE VIDEO IMAGE PROCESSOR...

The primary idea was to do instant modification of instant feedback...simply the experience of getting INSTANT feedback is an extra-ordinary thing...it is a NEW thing with the realization of electronics...

IT HAS BEEN LESS THAN A QUARTER OF A CENTURY SINCE WE HAVE HAD non_HUMAN, or at least NON-LIVING real-time INFORMATION PROCESSING ENTITIES IN THE UNIVERSE..

all of our other infromation processing entitites like print, photography, painting, and any number of them have been very much in DELAYED-TIME. So 'real-time' information processing is a new thing! (That is, outside of the human-sphere; humans have always been real-time information-processors) That's one of the things that makes such an extra-ordinary distinction between something like:

"writing something down for someone" / "and talking to someone about it"

It is simply the real-time information processing verses the stored-time processing...

PUT YOURSELF IN A FEEDBACK LOOP

yes, the reason you put yourself in a feedback loop is so you can learn something, or rather learn to do something...you know, you do something and the results get processed somehow, perhaps just by yourself just looking at it,...and you do another thing and the results of that get processed etc...and your action can constantly be tuned or corrected or refined by what you see...

IT'S BEEN THE HISTORICAL PROBLEM AT LEAST WITH 'ART' MEDIA, THAT THE DELAY OF THE FINAL PRODUCT IN ANY EVENT HAS ALWAYS BEEN FAR-BEHIND THE INITIATING-ACT-OF-IT...

in other words, even tho you get instant feedback while dobbling paint on a canvas, it takes a hu-mungously long time before you get the 'finished' product...

WITH A VIDEO-IMAGE YOU INSTANTANEOUSLY HAVE THE WHOLE 'PICTURE' THERE ALL-THE-TIME/// ///THAT IS,

NO VISUAL FEEDBACK DELAY...

I CONSTANTLY HAVE THIS FEELING OF 'MORE' ALWAYS BEING AVAILABLE ALL THE TIME THAN I CAN SEE...THAT'S A FAR-OUT STATE TO FIND ONES'SELF' DEFINED IN.

You know how we often don't feel too good about the tapes we just get done processing...? Well, I think it is because we, when making them, always are looking at the image as 'negative-feedback', that is, we are oriented to it to find out what is wrong-so-as-to-tune it on to be 'better' that we end up when the tape is over with this feeling that the whole tape was an experience-string of 'not-so-good' images...later on in a couple of weeks when we see the tape played back we usually feel that it was considerably more successful than we had thought...

A PERSON 'SEEING' IN A FEEDBACK LOOP THAT IS HIGHLY INTERACTIVE is considerably different than 'SEEING' in stored-time-lag...

A polaroid camera even has a 10 second or a minute delay in its feedback loop. Any typical photographer has many hours or even days of time delay in his feedback loop.

YOU CAN'T LEARN ANY FASTER THAN THE DELAY IN YOUR FEEDBACK LOOP...

SO WE SUBSTITUTE ALL KINDS OF PREDICTING TOOLS BECAUSE WE DON'T HAVE ENOUGH FEEDBACK...SO WE USE EXPOSURE METERS TO PREDICT HOW THE PHOTOGRAPH WILL TURN OUT..WE TRAIN OUR VISION NOT TO REALIZE HOW THINGS CAN BE VISUALLY STRONG OR POWERFUL, BUT SIMPLY TO JUST BE ABLE TO PREDICT WHAT IS GOING TO HAPPEN.

THAT BECOMES SO IMPORTANT THAT MOST OF A PHOTOGRAPHERS TRAINING IS ONE OF LEARNING HOW TO PREDICT WHAT THE PICTURE IS GOING TO LOOK-LIKE!!!

WITH ELECTRONIC-VISUAL-EYE-ZATION DONE PROPERLY, THE FEEDBACK IS

WITH ELECTRONIC INFORMATION PROCESSING DONE PROPERLY THE FEEDBACK IS

NO LONGER THE LIMIT...

then the limit becomes how fast your own mind can process information; and that is a much-higher limit in some cases, especially when processing visual information. We are able to take in just incredible amounts of visual information as far as I can figure out...its alittle had to define it. But putting yourself in that feedback loop allows you to:

TUNE AND GROW FAST AT A RATE THAT IS SELF-LIMITED RATHER THAN LIMITED BY AN EXTERNAL-MEDIUM..

You're still limited by the charater of the feedback butno-longer by the time it takes for the feedback to get 'back'.

SIMPLY TO GET 'INSTANT' FEEDBACK IS A PLEASUREABLE EXPERIENCE...JUST TO TOUCH SOMETHING AND SOMETHING HAPPENS IS FAR-OUT-EDUCATIONAL-EXPERIENCE.

****NEWSPACE CULT is the name-tag that University of Illinois, Circle Campus, students call themselves...*

Of course to push something and to have it happen considerably later can be a pleasure too...especially if it is a big-bang...if it is just alittle thing it is not as nice.

tee-hee-tee-hee...

(...a ONE-MAN show...)

See if the ART SYSTEM could give everybody a BIG-BANG every month/then it might still make sense to make what 'they' call ART. But shit, all I ended up doing 4 or 5 years ago was crowding myself out of my living-studio place by being filled up with art-abjects. I was really into learning fast you see so I had to make stuff to get the feedback-back fast; quickly what I did was make myself right out onto the street with no-room for me to move around...I polutted myself out!

To go back to basics: my claim is that the car teaches you how to drive the car.

-of course somebody came in and told you about clutches, levers, brakes and stuff like that , but beyond that...everything you learn about driving a car you learn by driving a car. The car taught you...in general. That's a paradigm...

I mean most musicians learn how to play something pretty much on their own...you certainly can take lessons on musical instruments but a great number of people have done the majority of their learning, and at some point all-musicians have done the majority of their learning without being 'taught'...okay, well who is teaching you? LEARNING IS BEING DONE. At one level you are teaching yourself and that makes sense; but at another level the INSTRUMENT is teaching you. the fact that you can hear stuff you are producing and then you 'push' on the instrument differently which produces different stuff you hear...it's that LOOP which is teaching you about the instrument and how to use the instrument and how to make sounds that you like.

PART OF THE REASON THAT MUSIC HAS SUCH A UNIVERSAL APPEAL AND IS SUCH A HIGHLY EVOLVED FORM IS THAT MUSICIANS HAVE ALWAYS HAD REAL-TIME FEEDBACK SYSTEMS TO WORK WITH...

THEY HAVE NEVER HAD TO WORK WITH STORED-TIME FEEDBACK SYSTEMS AS A PERFORMER; NOW THE COMPOSER HAS A DIFFERENT ORIENTATION TO IT

why it is that ELECTRONIC MUSIC ISN't particulary 'popular' is that electronic-musicians who use the powerful tool like electronic sound synthesizer, have had their own sonic-pereseption so radically amplified...they have sped-up their own sonic learning so quickly with this powerful tool they've had, THAT THEY HAVE RUN away and out-distanced their audience. '...learned their way away from the culture.......'

SOUND-ARTISTS HAVE ALWAYS HAD REAL-TIME TOOLS TO WORK/PLAY WITH...
VISUAL-ARTISTS HAVE NEVER HAD REAL-TIME TOOLS TO WORK/PLAY WITH...EXCEPT NOW.

SO THE PREDICTION IS THAT THE SAME THING IS GOING TO HAPPEN AND IS HAPPENING TO THE VISUAL ARTIST (US) WHO ARE USING REAL-TIME VISUAL PROCESSING INSTRUMENT...IT MAY GOES AS FAR AS TO HAVE A HIGHLY ARTICULATED LANGUAGE...I MEAN A LANGUAGE LIKE THAT I AM USING RIGHT-NOW WHEN TALKING/NOT LIKE NOW WHEN I AM WRITING, WRITE-NOW...

YOU NEED A REAL-TIME MANIPULATOR TO DEVELOPE VISUAL-LANGUAGE RIGHT NOW...*developing a language is a very complex thing and you need fast-feedback to be able to do IT.*

****COSMIC SNAILSPACE was the 'title' of their last event (an inflato-environmental/IMAGE PROCESSOR thing) they did co-laboratively last year...see VIDEO CASSETTE # 58 in Video Data Bank...*

The Dan Sandin IMAGE PROCESSOR is the most powerful 20th Century visual-image modification tool (instrument) on our panet-earth right now that we-all know about...don't miss this 'historic' (tee-hee) flight into 'new-space'...

Our voice-box is a very precise articulator of sonic entities and our instruments are more specialized and more precise in general as articulators of sonic-constructs.

Alot of our perception of sound and music and language has to do with that 'cultural experience' and 'biological experience' of having such a powerful real-time articulator of sound-constructs..

...and now we got it in visual images.

So maybe sometime in the future we may have a similiar XXXXXXXX kind of structure for visual images that we now have with sound images...including a completely referential language...!

I love Bucky's thing so much when he says: "...LOOK AT THE ENGLISH DICTIONARY; OF COURSE WE CAN AGREE ON THINGS... THERE'S 100,000 THINGIES THERE WE ALL AGREE-ON..."

OH, THANK-YOU...ARE THESE REALLY LITTLE CHOCOLATE KISSES?

NO, THEY ARE LITTLE GIRLS NIPPLES WHO LOST THEIR CANDY...WHAT?
(yes, wrapped up in aluminum foil)

Wow, this will sound strange when I put that in the audio-transcript of this tape...wow, little cnadies who lost thier girls..

WELL PRESUMEABLY IT WON'T MAKE IT IN. I REALLY THINK WE SHOULD MAKE IT FAIRLY COMPACT AND MAYBE EVEN UNDERSTANDABLE... ? YES-SIR!

(well for sure we will put that in) *WE'VE GOT TO HAVE MORE POLUTION BEFORE WE CAN SEE READING AS VERY VALUABLE CANDIE-KISSES for sucking instead of DEAD-use-less WASTE-of-words...*

4

OKAY, ONE OF THE REASONS OF DESIGNING THE IMAGE PROCESSOR WAS TO MAKE A MACHINE THAT MET THE CONDITIONS OF HIGH FEEDBACK AND MULTI-SENSUALITY.

THAT IS, YOU USE TWO SENSES; TURN SOME KNOBS AND YOU SEE RESULT, THATS TWO SENSES, of course it can process sound and do other things too.

DESIGN A MACHINE FROM THE POINT OF VIEW OF WHAT A PERSON DOES TO DO WITH THEM and not from the point of view of what can the machine do.

...and the IMAGE PROCESSOR is the first one of those machines, hopefully not the last.

YOU'RE SUPPOSED TO TALK TOO PHIL...you're supposed to say/talk about whether it worked or not...or what it worked!

I DON'T HAVE THE TIME. I WANT TO TYPE THIS UP AND RUN UP TO THE ZROX MACHINE TO PASS-IT-AROUND TO MY STUDENTS AND STUFF.................

alternate goth